

The Importance of Screening



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Peter Georgilopoulos is an APA Sports Physiotherapist currently working out of his private practice on the Gold Coast. He has had numerous involvement with sporting organisations but most notable appointments were with the Australian Olympic Team in Sydney and the Socceroos from 1990 – 2000. In this article, Peter discusses the importance of Screening and what coaches can gain from this procedure.

Screening is often considered to be the exclusive domain of Physiotherapists and Sports Physicians. The detailed information obtained by trained medical professionals is often fundamental in establishing appropriate intervention responses to ultimately improve an athlete's performance and prevent potential injury.

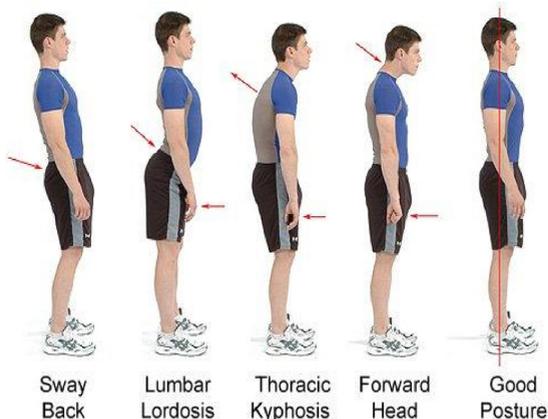
For elite athletes, medical, physiological and musculoskeletal screening is a regular occurrence in their training program. Most recreational athletes however lack medical and physiotherapy support and often continue to train and often compete with easily correctable anomalies that progressively hinder performance and lead to joint, muscle or tendon breakdown.

Parents and coaches are ideally placed to identify anomalies in gait, foot posture, muscular tightness and inefficient running technique but few can readily identify the specific contributing causes.

In the absence of formal, accurate screening, parents and coaches may be able to easily identify some of the following anomalies without requiring specific skills or involving difficult recording procedures.

POSTURE

Standing posture is often a good indicator of underlying muscular imbalance or specific joint limitation.



Likely causes of postural anomalies:

Sway Back

Often associated with tight gluteals and hamstrings.

Lumbar Lordosis

Frequently the result of tight psoas major muscles. Places excessive joint compressive force on lumbar facet joints.

Thoracic Kyphosis

Often the result of thoracic spine stiffness and possibly tight pectoral muscles. Is commonly linked to shoulder rotator cuff syndromes due to the excessive internal rotation force placed on the shoulders.

Forward Head

Often habitual; common amongst adolescents undergoing growth spurts who may be self conscious about altering body image.

Scoliosis

A rotational deviation of the spine resulting in an "S" shaped deformity. Two types:

- Functional scoliosis is caused by muscle spasm associated with acute back pain and is entirely reversible once pain resolves. Does not appear as a spinal deviation in the flexed (toe touching) position.
- Structural scoliosis is a true structural deviation involving rotation of spinal segment(s) which appears as asymmetry in the spine in the flexed position.



Knee Deformities

- “Knock-knees” (Genu Valgum) – can result in early degenerative knee joint changes and meniscal (cartilage) tears. This deformity is often associated with flat feet and frequent stress fractures of the shins and may often be a predisposing factor for dislocating knee caps.



- “Bow-legs” (Genu Varum) - can result in early degenerative knee joint changes. Often associated with Iliotibial Band (ITB) friction syndrome and patello-femoral (anterior knee) pain.



Pronating (Flat) Feet

Flat feet are one of the most common causes of overuse injury and breakdown in runners. It can be a major factor in Sever's Disease, Achilles tendinitis, lateral ankle joint pain, impact loading injuries on the knee and shin (including stress fractures) and low back pain. Pronation is commonly found in runners displaying excessive internal rotation of the hip leading to “heel flicking” running action.



Thomas Test

A useful test for tight hip flexors and ITB. A positive result (indicative of tight structures) is shown here. The free leg is situated in a position above horizontal and may be also deviating laterally which may be a strong indicator of restricted ITB.



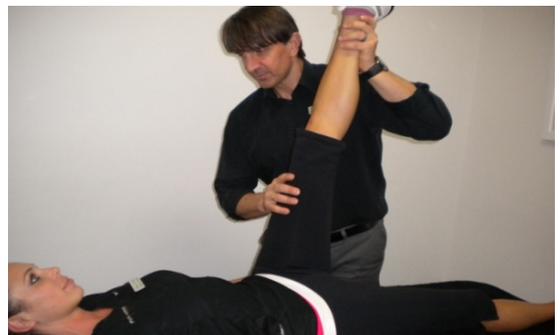
Thomas Test (negative)

Note the position of the free leg which is situated below horizontal. This test can be used both diagnostically and also as a stretch for psoas major and other hip flexors.



Straight leg raise test

Can be performed by an assistant or can be self tested by the athlete using a towel placed under the heel which can be used to pull the limb into the SLR position. The position of the foot (toes pointed or toes pulled back) and the position of the head (lying flat or flexed forward) can alter the results. This test is an indicator of muscle length as well as a neural (nerve) tension test. Frequently SLR test is used to identify potential hamstring problems. Poor straight leg raise results (ie less than 60 degrees) can be considered as a risk indicator. Ideally athletes should have at least 90 degrees free range before the onset of resistance and should maintain back & pelvic flexibility to achieve this degree of SLR after each training session.



Hawkins Kennedy Test

a test which can identify impingement or trauma to the supraspinatus tendon which is the most commonly injured component of the rotator cuff of the shoulder. A positive result occurs when there is pain at any point throughout the rotational movement. (most commonly at the end of range)

These screening tests are by no means complete and can only form a meaningful part of a diagnosis when undertaken as part of an entire examination by a trained Sports Medicine Professional. Some of these tests can be provocative, in other words they can aggravate an existing problem and should be performed slowly, gently and never beyond the onset of pain.

The information that may emerge from this type of basic screening should lead parents and coaches to seek professional assistance where appropriate intervention can be undertaken.

